

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicants thank the Examiner for carefully considering this application and for courtesies extended during the Examiner Interview conducted on July 11, 2007.

Disposition of Claims

Claims 1-8, 11, 15-19, 21-25, and 28 are currently pending in this application. Claims 1, 11, 25, and 28 are independent. The remaining claims depend, directly or indirectly, from claims 1 and 11.

Claim Amendments

As discussed during the Examiner Interview conducted on July 11, 2007, the claims have been amended to clarify the present invention. Specifically, the amended independent claims recite that user data includes mapping rules that map an internal hierarchy of a first simulation design implementation to an internal hierarchy of a second simulation design implementation. Support for this amendment may be found, for example, in paragraph [0037] of the Specification. Therefore, no new subject matter is added by way of these amendments.

Further, Applicants note that although Applicants discussed with the Examiner the possibility of amending the phrase "comparison result" to "comparison data" in order to match Figure 4, Applicants have since realized that the two phrases are not equivalent. As described in paragraphs [0009]-[0010] of the Specification, the comparison data is part of user data, while the comparison result is what is obtained when the golden data and the test data are compared by the comparator. Thus, the phrase "comparison result" has not been modified by this reply.

Claim Objections

The Examiner objects to claims 11, 25, and 28 for minor informalities. Claims 11, 25, and 28 have been amended to correct the phrase "is obtaining" to "is obtained." Accordingly, withdrawal of this objection is respectfully requested.

Rejections under 35 U.S.C. § 101

Claims 1-8, 11, 14-19¹, 21-25, and 28 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Specifically, the Examiner asserts that the claims do not produce a tangible result. This rejection is respectfully traversed.

Claim 1 clearly recites the generation of a comparison result "by comparing a portion of the golden data to a portion of the test data ...wherein the comparison result is used to *debug*" either a test simulator or a simulation design. Emphasis added. Claims 11, 25, and 28 include similar limitations. Applicants respectfully assert that a comparison result that is used for debugging is a useful, concrete, and tangible result. As is clearly appreciated by those with ordinary skill in the art of computer science, the result of debugging is an error-free product (*i.e.*, in this case, an error-free simulation design or an error-free test simulator). Thus, the generation of a comparison result for use in debugging a test simulator or a simulation design is a tangible result having real world value.

Further, the Examiner asserts that the phrase "is used to" precedes the phrase "debug," thereby indicating intended use and not real world use. Applicants respectfully disagree. "A "substantial utility" defines a "real world" use. Utilities that require or constitute carrying out

¹ Applicants note that although the Examiner included claim 14 in all the rejections, claim 14 was canceled in a previous response by the Applicants. Thus, Applicants argue herein for allowance of the claims based on the assumption that the Examiner made a typographical error by including claim 14 in the rejections.

further research to identify or reasonably confirm a "real world" context of use are not substantial utilities." See MPEP § 2107.01. Here, there is no further research needed to identify a "real world" context of use or a substantial utility, as those skilled in the art would clearly understand what is meant by "the comparison result is used to debug one selected from a group consisting of a simulation design or a test simulator."

In view of the above, claims 1, 11, 25, and 28 each claim subject matter that produces a tangible result as required by 35 U.S.C. § 101. Claims 2-8, 15-19, and 21-24, which depend directly or indirectly from claims 1 and 11, also each claim statutory subject matter under 35 U.S.C. § 101. Accordingly, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1-5, 7-8, 11, 14-16, 18-19, 21-25, and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,141,630 ("McNamara") in view of U.S. Patent No. 6,871,298 ("Cavanaugh"). To the extent that this rejection may still apply to the amended claims, this rejection is respectfully traversed.

To establish a *prima facie* case of obviousness "...the prior art reference (or references when combined) must teach or suggest all the claim limitations." See MPEP §2143.03. Further, "all words in a claim must be considered in judging the patentability of that claim against the prior art." See MPEP §2143.03. The Applicant respectfully asserts that the references, when combined, fail to teach or suggest all the claim limitations of the amended independent claims.

As discussed with the Examiner during the Examiner Interview conducted on July 11, 2007, the claimed invention recites three distinct data entities: golden data, test data, and user

data. User data includes mapping rules that map an internal hierarchy of the first simulation design implementation to an internal hierarchy of the second simulation design implementation (*see* Specification, paragraph [0037]). User data is used by the comparator to select portions of golden data and test data, which are subsequently compared to yield a comparison result (*see* Specification, paragraph [0009]-[0010]).

Turning to the rejection of the claims, amended claim 1 recites in part “wherein the user data comprises a plurality of *mapping rules* used by the comparator to map *an internal hierarchy* of the first implementation of the simulation design to an internal hierarchy of the second implementation of the simulation design [emphasis added].” Amended claims 11, 25, and 28 recite similar limitations.

The Examiner admits that McNamara fails to teach or suggest user data that comprises a plurality of mapping rules used by the comparator to map the first implementation of the simulation design to the second implementation of the simulation design. *See* Office Action mailed April 2, 2007 at page 4. It follows that McNamara also fails to teach or suggest that the mapping rules map an internal hierarchy of the first simulation design implementation to an internal hierarchy of the second simulation design implementation. Further, Cavanaugh fails to supply that which McNamara lacks.

During the Examiner Interview of July 11, 2007, the Examiner cited col. 7, ll. 47-53 of Cavanaugh as teaching mapping rules. Applicants respectfully disagree. The cited portion of Cavanaugh teaches, at best, a rules table that includes *instruction grouping* rules. Instruction grouping rules are simply rules that efficiently group instructions for processing and/or execution on a processor. *See* Cavanaugh, col. 8, ll. 21-24. Cavanaugh is completely silent with respect to rules that map one simulation design implementation to another simulation design

implementation. More importantly, assuming *arguendo* that Cavanaugh teaches what the Examiner claims, Cavanaugh is completely silent regarding mapping rules that *map an internal hierarchy* of a first simulation design implementation *to an internal hierarchy* of a second simulation design implementation.

Further, the user data taught by Cavanaugh in col. 6 (as cited by the Examiner during the Examiner Interview of July 11, 2007) does not *include* mapping rules, as required by the amended independent claims. Rather, the rules table of Cavanaugh is a separate data structure that indicates how instructions should be grouped when all the user input and other system information is combined and instructions are ready to be processed and/or executed. See Cavanaugh col. 7, ll. 47-53.

In view of the above, it is clear that amended independent claims 1, 11, 25, and 28 are patentable over McNamara and Cavanaugh, whether considered separately or in combination. Further, claims 2-5, 7, 8, 15, 16, 18, 19, and 21-24, which depend directly or indirectly from claim 1 and 11, are patentable over McNamara and Cavanaugh for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 6 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McNamara in view of Cavanaugh and further in view of U.S. Patent No. 6,866,145 ("Davidson"). To the extent that this rejection may still apply to the amended claims, this rejection is respectfully traversed.

As described above, both McNamara and Cavanaugh fail to teach or suggest the limitations of amended independent claims 1 and 11. Further, Davidson fails to supply that which McNamara and Cavanaugh lack, as evidenced by the fact that the Examiner relies on

Davidson solely for the purpose of teaching that the test simulator and the reference simulator execute the simulation image in lockstep. *See* Office Action mailed April 2, 2007, pages 7-8. In view of the above, it is clear that amended independent claims 1 and 11 are patentable over McNamara, Cavanaugh, and Davidson, whether considered separately or in combination. Dependent claims 6 and 17 are patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicants believe this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 03226/324001).

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Respectfully submitted,

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